

**Table 4 Surface Water Quality Criteria for Niagara River Toxics Management Plan
“Priority Toxics and Lake Ontario LaMP Critical Pollutants (ppb)”**

Substance ^a	Protection of Human Health for Consumption of Fish			Protection of Aquatic Life (Acute Values)		Protection of Aquatic Life (Chronic Values) ^b				Protection of Human Health for Drinking Water Source			Protection of Piscivorous Wildlife
	NYS	EPA ^c	HC	NYS	EPA	NYS	EPA	OMOE ^b	IJC	NYS	HC	IJC	NYS
Arsenic		0.018		340^d	340 ^d	150^d	150 ^d	5(p)		50	50	50	
Benz(a)anthracene		0.0044		0.23		0.03		0.0004(p)		0.002			
Benzo(a)pyrene	0.0012	0.0044								0.002			
Benzo(b)fluoranthene		0.0044								0.002			
Benzo(k)fluoranthene		0.0044						0.0002(p)		0.002			
Chrysene		0.0044						0.0001(p)		0.002			
Chlordane	2E-5	2.1E-3	0.006		2.4		0.0043	0.06	0.06	0.05			
<i>p,p'</i> -DDD	8E-5	8.3E-4	see DDT					see DDT	see DDT	0.3			see DDT
<i>p,p'</i> -DDE	7E-6	5.9E-4	see DDT					see DDT	see DDT	0.2			see DDT
<i>p,p'</i> -DDT	1E-5	5.9E-4	0.001 ^e		1.1		0.001	0.003 ^e	0.003 ^e	0.2			1.1E-5^e
<i>Dieldrin</i>	6E-7^f	1.4E-4	0.004 ^f	0.24	0.24	0.056	0.056	0.001 ^f	0.001 ^f	0.004			
<i>Dioxins/dibenzofurans</i>	6E-10^g	1.3E-8 ^h						2E-8(p) ^g		7E-7^g			3.1E-9^h
Hexachlorobenzene	3E-5	7.5E-4	0.0065					0.0065		0.04			
Lead				see below^{i,d}	65 ^{i,d}	see below^{i,d}	2.5 ^{i,d}	5(p) ^j	25	50	2		
<i>Mercury</i>	7E-4^d	0.050		1.4^d	1.4 ^d	0.77^d	0.77 ^d	0.2 ^d	0.2 ^d	0.7	0.1 ^k		0.0026^d
<i>Mirex</i>	1E-6			0.001		0.001	0.001	0.001		0.03			
Octachlorostyrene	6E-6									0.2			
PCBs ^l	1E-6	1.7E-4	0.001				0.014	0.001		0.09			1.2E-4

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	NYS	EPA ^c	HC	NYS	EPA	NYS	EPA	OMOE ^b	IJC	NYS	HC	IJC	NYS
Tetrachloroethylene	1	0.8						50		0.7			
Toxaphene	6E-6	7.3E-4		1.6	0.73	0.005	0.0002	0.008	0.008	0.06			

(New York State Standards are shown in boldface type)

Sources:

NY State: Division of Water Technical and Operational Guidance Series (1.1.1), June 1998. New York State Department of Environmental Conservation, Albany, NY.

U.S. EPA: National Recommended Water Quality Criteria. Office of Science and Technology, Washington, DC. May 21, 1999.

Ontario MOE: (1) Water Management Policies, Guidelines, Provincial Water Quality Objectives. July 1994. (2) Joint Evaluation of the Upstream/Downstream Monitoring Program, 1996-1997.

Health Canada: Joint Evaluation of the Upstream/Downstream Monitoring Program, 1996-1997.

IJC: (1) Specific Objectives. Annex 1 of the Great Lakes Water Quality Agreement of 1978, as amended 1987.

Footnotes:

- a. All substances shown are NRTMP “priority toxics”. Those in italics are also Lake Ontario LaMP critical pollutants.
- b. Concentrations designed to be protective of all aquatic life in situations of long-term exposure. For Ontario, values shown are Provincial Water Quality Objectives, or proposed PWQOs, denoted with (p).
- c. Values for protection of human health for consumption of water + organisms.
- d. Applies to dissolved form.
- e. Applies to sum of pp-TDE, ppDDE and ppDDT.
- f. NY State Standard shown applies to dieldrin only. In addition, a NY State standard of 0.001 ppb applies to the sum of aldrin + dieldrin. Ontario PWQO, Health Canada, and IJC objectives apply to the sum of aldrin + dieldrin.
- g. Value is for total dioxins/furans as 2,3,7,8 equivalents.
- h. Applies only to 2,3,7,8-TCDD.
- i. Chronic value in ppb = $\{1.46203 - [\ln(\text{hardness in ppm}) (0.145712)]\} \exp(1.273[\ln(\text{hardness in ppm})] - 4.297)$. Acute value in ppb = $\{1.46203 - [\ln(\text{hardness in ppm}) (0.145712)]\} \exp 1.273[\ln(\text{hardness in ppm})] - 1.052$.
- j. Hardness based criteria. For EPA criterion, 100 mg/L used. Ontario criteria apply at hardness > 80 mg/L.
- k. Applies to inorganic mercury.
- l. Values apply to sum of PCBs.